

ABSTRACT OF THE DISCLOSURE

A system and method avoids “livelock” and “starvation” among two or more input/output (I/O) devices of a symmetrical multiprocessor (SMP) computer system competing for the same data. The SMP computer system includes a plurality of interconnected processors, one or more memories that are shared by the processors, and a plurality of I/O bridges to which the I/O devices are coupled. A cache coherency protocol is executed the I/O bridges, which requires the I/O bridges to obtain “exclusive” (not shared) ownership of all data stored by the bridges. In response to a request for data currently stored by an I/O bridge, the bridge first copies at least a portion of that data to a non-coherent buffer before invalidating the data. The bridge then takes the largest amount of the data saved in its non-coherent buffer that it knows to be coherent, and releases only that known coherent amount to the I/O device, and then discards all of the saved data.

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